

REMARKS

By the present Amendment, claims 11, 14, 20 and 23 are amended, claims 15-16 and 24-25 are cancelled, and claim 29 is added. This leaves claims 11-14, 17-23 and 26-29 pending in the application, with claims 11, 20 and 29 being independent.

Final Rejection Premature

The Office Action is made final despite the citation of new patents against the claims on the grounds that the amendments necessitated the new grounds of rejection. Since the claims rejected on the new grounds of rejection only recite features that were cited in the original claims, the finality of the rejection is premature. Reconsideration and withdrawal of the finality of the rejection is requested.

Entry of Amendment is Otherwise Appropriate

Also, the changes to claims 11 and 20 involve the addition of the subject matter of previously submitted claim 16 and 25, respectively. New claim 29 constitutes the combination of claims 11 and 15, as previously submitted. Additionally, changes are made to avoid the rejections for indefiniteness. Thus, these changes in the claims do not involve new issues requiring further search or consideration, and should be entered since they place the application in condition for allowance or in better form for appeal.

Objection to Drawings

The drawings are objected to under 35 C.F.R. §1.83(a) for allegedly failing to show the pressure compensator recited in claim 20. However, the pressure compensator is graphically and adequately shown and identified by feature “90” in Fig. 3.

In view of this illustration, reconsideration and withdrawal of the objection to the drawings is requested.

Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 11-28 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. By the present Amendment, the claims are revised to avoid the language alleged to be indefinite in the Office Action by adopting the proposed changes. All language of the presently pending claims is now definite.

Thus, the pending claims are definite and comply with 35 U.S.C. §112.

Rejection Under 35 U.S.C. §103

As noted above, claims 11 and 20 are revised to include the subject matter of claims 16 and 25, respectively, making claims 11 and 20 constitute previously submitted claim 16 and 25 rewritten in independent form, including the base claim and any intervening claims. Since such claims are indicated as being allowable (claim 25 was indicated as being allowable with claim 16 in a December 15, 2009 telephone conversation with Examiner Baskin), amended claims 11 and 20 and claims 12-14, 17-19, 21-23 and 26-28 dependent thereon should now be allowable. The record will not be burdened with further comments thereon.

Claim 29 (combining the limitation of previously submitted claims 11 and 15) covers a valve comprising a valve housing 10 with first, second and third ports 1, 2, 3 extending through the valve housing and with a main piston 18 guided for movement within the valve housing. A pilot control 26 designed as a gate valve (Fig. 4) with a pilot piston 24 is actuated by an electromagnet 28 to move to an open position where fluid flows from one of the first and second ports, actuated by the main piston, via a cross-sectional constriction orifice 38 in the main piston and via the pilot piston to the third fluid port actuated by the pilot piston. The main piston travels to a respective control position as a result of an accompanying pressure drop to actuate the first and second ports relative to amounts of fluid. The piston lift of the main piston with the pilot piston in the open position is proportional to currents supplied to the electromagnet. The pilot piston 24 is cylindrical on its free end and is movable in a longitudinal direction in a corresponding longitudinal recess 52 in a part of the valve housing 10. A compression spring 46 is between the main piston and the pilot piston and is received in a main piston recess 44 in the main piston. The cross-sectional constriction orifice discharges into the main piston recess. A contact piece 48 is on a free end of the compression spring adjacent the pilot piston, and is connected to a free end of the pilot piston by a contact ball.

Claims 11-15, 18 and 19 stand rejected under 35 U.S.C. §103 as being unpatentable over the previously cited U.S. Patent No. 5,072,752 to Kolchinsky in view of the newly cited U.S. Patent No. 5,865,213 to Scheffel. Relative to claims 11-14 and 18, Kolchinsky patent Fig. 2 is cited as disclosing a valve having a valve housing 22, three ports 34, 38, 102, a main piston 40 and a pilot piston 76. An electromagnet 122 allegedly actuates the pilot piston to an open position to allow fluid flow between first port 34 and second port 38, and has an armature 96, a

coil 122 and a pole tube 98. The armature is allegedly moved in the pole tube when the coil is supplied with current (column 5, lines 55-60). When the pilot control 82 of the pilot piston is open relative to seat 70, fluid flows through a cross-sectional constriction orifice 44 into chamber 72 where it is allegedly drained out of third port 102. The resulting pressure drop allegedly causes the main piston to actuate fluid ports 34, 38 relative to fluid pressure at port 38 (column 5, line 55 – column 6, line 13). Compression spring 66 is allegedly disposed between the main piston and the pilot piston, and allegedly is received in a recess 64 of the main piston. The cross-sectional constriction with selective valve 52 allegedly discharges into the recess. A contact piece 68 is allegedly on the compression spring free end adjacent the pilot piston, and is allegedly connected to the free end of the pilot piston via contact 82. A second compression spring 81 biases the pilot piston towards the open position allegedly. The Scheffel patent is cited for disclosing a pilot operated solenoid valve where a contact piece is connected to a free end of the pilot piston by a contact ball 14, with the contact ball received in a conical recess in the contact piece and extending only partially into the contact piece. In support of the rejection, it is alleged that it would be obvious to provide the Scheffel contact ball in the Kolchinsky pilot valve free end with the contact ball also allegedly providing a dynamic surface for incoming flow, and to provide a conical recess in the Kolchinsky contact piece. Relative to claim 15, the Kolchinsky pilot valve is allegedly formed as a gate valve at a closing and sealing free end 82 where the free end is cylindrical and is allegedly longitudinally movable in recess 86 of the valve housing.

The Kolchinsky patent discloses a bidirectional cartridge valve having a poppet 40 with a counterbore 64 receiving a coil spring 66. A cylindrical pilot seat 68 fixedly mounted in housing 22 has an outer nose portion 70 that abuts the coil spring and an axial pilot opening 74

connecting valve chamber 36 with pilot chamber 72. The pilot opening 74 is normally closed by pilot valve 76, and is opened by the movement of needle valve 82 that is conical or tapered on its free end. The opening and closing of pilot opening 74 by conically ended needle valve 82 is a significant part of the Kolchinsky valve operation.

In contrast to the conical or tapered free end on the Kolchinsky needle valve engaging pilot opening 74 relied upon in the rejection as corresponding to the claimed pilot piston, claim 29 recites that the pilot piston free end engaging the housing recess is cylindrical. This claimed cylindrical free end patentably distinguishes this claim over the cited patent. The cylindrical portion of Kolchinsky needle valve 82 is spaced from and is not on its free end.

Accordingly, claim 29 is patentably distinguishable over the cited patents considered individually or in any obvious combination thereof. The Scheffel patent is being cited solely for the contact ball and does not supply the noted deficiency in the Kolchinsky patent.

In view of the foregoing, claims 11-14, 17-23 and 26-29 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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Dated: February 12, 2010

United States Patent and Trademark Office

An Agency of the Department of Commerce

Closing of the United States Patent and Trademark Office on Monday, February 8, 2010 through Thursday, February 11, 2010

In view of the official closing of the Federal government offices in the Washington, D.C. metropolitan area, including the United States Patent and Trademark Office (USPTO), from Monday, February 8, 2010 through Thursday, February 11, 2010, the USPTO will consider each day from Monday, February 8, 2010 through Thursday, February 11, 2010, to be a "Federal holiday within the District of Columbia" under 35 U.S.C. § 21(b) and 37 C.F.R. §§ 1.6, 1.7, 1.9, 2.2(d), 2.195 and 2.196. Any action or fee due from Monday, February 8, 2010 through Thursday, February 11, 2010 (or the preceding Saturday (February 6, 2010) or Sunday (February 7, 2010)) will be considered as timely for the purposes of, e.g., 15 U.S.C. §§ 1051(b), 1058, 1059, 1062 (b), 1063, 1064, 1126(d), or 35 U.S.C. §§ 119, 120, 133 and 151, if the action is taken, or the fee paid, on the next succeeding business day on which the USPTO is open. 37 C.F.R. §§ 1.7(a) and 2.196.

37 C.F.R. §§ 1.6(a)(2), 2.195(a)(4) and 2.198 provide that correspondence deposited in the Express Mail Service of the United States Postal Service (USPS) in accordance with

37 C.F.R. §§ 1.10 or 2.198 will be considered filed on the date of deposit (as shown by the "date-in" on the Express Mail mailing label) with the USPS. Thus, any paper or fee properly deposited in the Express Mail Service of the USPS from Monday, February 8, 2010 through Thursday, February 11, 2010, in accordance with 37 C.F.R. §§ 1.10 or 2.198 will be considered filed on its respective date of deposit in the Express Mail Service of the USPS (as shown by a "date-in" of February 8, 2010, February 9, 2010, February 10, 2010, or February 11, 2010, on the Express Mail mailing label).

37 C.F.R. § 1.6(a)(4) and 37 C.F.R. § 2.195(a)(2) provide that patent and trademark-related correspondence transmitted electronically to the USPTO will be considered filed in the USPTO on the date the USPTO received the electronic transmission. Thus, any patent and/or trademark-related correspondence transmitted electronically to the USPTO will be considered filed in the USPTO on the date the USPTO received the complete electronic transmission, even if the USPTO is closed on that day. Correspondence successfully received by the USPTO through the patent Electronic Filing System (EFS-Web) will receive the date as indicated on the Acknowledgement Receipt. Trademark Electronic Application System (TEAS) filings will receive the date indicated in the e-mail confirmation sent at the time of a successful filing.

Previous Legal Notifications Related to Security Issues and Emergencies

- [Closing of the United States Patent and Trademark Office on Monday, December 21, 2009 \(24 Dec2009\) \[PDF\]](#)
- [Closing of the United States Patent and Trademark Office on Friday, December 26, 2008 \[signed 22 December 2008\] \(23Dec2008\) \[PDF\]](#)

The United States Patent and Trademark Office (USPTO) will be closed on Friday, December 26, 2008. Since Thursday, December 25, 2008, is a Federal holiday, the USPTO will consider both Thursday, December 25, 2008, and Friday, December 26, 2008, to be a "Federal holiday within the District of Columbia" under 35 U.S.C. § 21(b) and 37 C.F.R. §§ 1.6, 1.7, 1.9, 2.2(d), 2.195 and 2.196. [READ FULL NOTICE>>>](#)

- [United States Postal Service Interruption and Emergency under 35 U.S.C. 21\(a\) \[signed 18 September 2008\] \(29Sep2008\) \[PDF\]](#)

The United States Patent and Trademark Office (USPTO) is designating the interruption in service of the United States Postal Service (USPS) in the areas affected by Hurricane Gustav in Louisiana and Texas beginning on